

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

Patent Application No. 10/754,390

Confirmation No. 7753

Applicant: Prasad et al.

Filed: January 9, 2004

TC/AU: 3723

Examiner: Muller, Bryan R.

Docket No.: 100196 (LVM Reference No. 223279)

Customer No.: 29050

**TRANSMITTAL OF  
APPELLANTS' REPLY BRIEF**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

In accordance with 37 CFR 41.41, appellants hereby submit Appellants' Reply Brief.

The items checked below are appropriate:

**1. Status of Appellants**

This application is on behalf of ☒ other than a small entity or ☐ a small entity.

**2. Oral Hearing**

☐ Appellant requests an oral hearing in accordance with 37 CFR 41.47.

A separate paper requesting oral hearing is attached.

☐ Appellant requested an oral hearing in accordance with 37 CFR 41.47 at the time appellant filed Appellant's Brief on Appeal.

**3. Extension of Time**

- ☐ Appellants petition for a one-month extension of time under 37 CFR 1.136, the fee for which is \$ 0.00.
- ☒ Appellants believe that no extension of time is required. However, this conditional petition is being made to provide for the possibility that appellants have inadvertently overlooked the need for a petition and fee for extension of time.

**Extension fee due with this request: \$ 0.00**

**4. Total Fee Due**

The total fee due is:

Request for Oral Hearing	\$ 0.00
Extension Fee (if any)	\$ 0.00

**Total Fee Due: \$ 0.00**

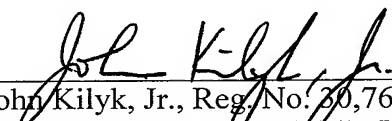
**5. Fee Payment**

- ☐ Attached is a check in the sum of \$0.00.
- ☐ Charge Account No. 12-1216 the sum of \$0.00. A duplicate of this transmittal is attached.

**6. Fee Deficiency**

- ☒ If any additional fee is required in connection with this communication, charge Account No. 12-1216. A duplicate copy of this transmittal is attached.

Respectfully submitted,

  
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Date: August 12, 2008

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
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**APPELLANTS' REPLY BRIEF**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Appellants hereby submit a Reply Brief to the Examiner's Answer. The Examiner's Answer was mailed by the U.S. Patent and Trademark Office on July 9, 2008, thereby making this Reply Brief due September 9, 2008. This Reply Brief is provided in further support of the appeal of the decision of the final rejection of claims 1-21, as set forth in the Office Action dated January 3, 2008.

*Status of Claims*

Claims 1-21 are currently pending, stand rejected, and are the subject of this appeal.

*Grounds of Rejection to be Reviewed on Appeal*

(A) Claims 1-7 and 16-20 are rejected under 35 U.S.C. § 103(a) as allegedly obvious over Reinhardt (i.e., U.S. Patent 6,095,902) in combination with Lakes (i.e., U.S. Patent 4,668,557) and Furukawa et al. (i.e., WO 03/058698 A1 (U.S. Patent Publication 2005/0107007 A1 as English language equivalent)).

(B) Claims 8 and 10 are rejected under 35 U.S.C. § 103(a) as allegedly obvious over Reinhardt in combination with Lakes and Furukawa et al. in further combination with Sevilla et al. (i.e., U.S. Patent 6,126,532).

(C) Claim 9 is rejected under 35 U.S.C. § 103(a) as allegedly obvious over Reinhardt in combination with Lakes and Furukawa et al. in further combination with Suzuki et al. (i.e., U.S. Patent 6,120,353).

(D) Claims 11-13 are rejected under 35 U.S.C. § 103(a) as allegedly obvious over Reinhardt in combination with Lakes and Furukawa et al. in further combination with Osterheld et al. (i.e., U.S. Patent 6,241,596).

(E) Claims 14, 15, 21 are rejected under 35 U.S.C. § 103(a) as allegedly obvious over Reinhardt in combination with Lakes and Furukawa et al. in further combination with Tang (i.e., U.S. Patent 5,949,927).

*Argument*

The Examiner's Answer repeats the rejections set forth in the Office Action dated January 3, 2008. The Examiner's Answer also includes counter-arguments in response to Appellants' Appeal Brief, dated April 29, 2008, that essentially reiterate the rejections previously set forth by the Examiner. The Examiner's counter-arguments are discussed below.

*A. Reinhardt in Combination with Lakes and Furukawa et al.*

Appealed claims 1-7 and 16-20 stand rejected as allegedly obvious over the combination of Reinhardt, Lakes, and Furukawa et al. The disclosures of each of these references were discussed in detail in Appellants' Appeal Brief (Appeal Brief, pp. 3-4).

In the Appeal Brief, Appellants pointed out that the Examiner improperly relied on Furukawa et al. for the limited disclosure that "high abrasion resistance is a requirement for long life of polishing pads ... [and] that polishing pads made of foamed polyurethane ... generally fail to have the desired abrasion resistance" (Office Action dated January 3, 2008, p. 3). Based on this isolated portion of Furukawa et al., the Examiner argued that it would have been obvious "to replace the conventional polyurethane foam of the Reinhardt polishing pad with polyurethane foam having a Poisson's [ratio] below zero, to improve strength and abrasion resistance ..." (Office Action dated January 3, 2008, p. 3). In so arguing, however, the Examiner ignored the accompanying teachings of Furukawa et al., most notably its teaching that *all* porous material – regardless of whether the material is polyurethane, and regardless of the material's Poisson ratio – has inherent structural limitations that prevent it from satisfying the "three requirements for the polishing pad ([i.e.,] a high polishing speed, abrasion resistance, [and] planarizing ability)" (paragraph 0012). Thus, one of ordinary skill in the art at the time of the invention would not have been motivated to replace one porous polymeric material, i.e., a positive Poisson ratio material, with another porous polymeric material, i.e., a negative Poisson ratio material, based on the disclosure of Furukawa et al. If anything, based on the disclosure of Furukawa et al., one of ordinary skill in the art would be motivated to replace the porous pad of Reinhardt with a non-porous pad, as suggested by Furukawa et al., to improve abrasion resistance. This is especially true considering that

Reinhardt contemplates the use of both porous and nonporous polishing pads comprising polyurethanes (col. 1, lines 29-33).

The Examiner's Answer simply repeats that "[t]he Furukawa reference is merely provided as extrinsic evidence to support the Examiner's statement that increased abrasion resistance is a desirable property in polishing pads, especially polishing pads that are made from foamed polymeric materials" (Examiner's Answer, p. 10). However, as discussed above, when the teachings of Furukawa et al. are considered in their entirety, one of ordinary skill in the art would recognize that Furukawa et al. teaches that only *nonporous* polishing pads can be used to achieve increased abrasion resistance. It is well established that a reference must be considered for all that it teaches, including disclosures that teach away from the claimed invention. *In re Hedges*, 783 F.2d 1038, 1041, 228 U.S.P.Q. 685, 687 (Fed. Cir. 1986) ("It is impermissible within the framework of section 103 to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art.") (citations omitted). In this case, even if one assumes, as the Examiner argues, that Furukawa et al. teaches one skilled in the art that increased abrasion resistance is a desirable property in polishing pads, the boundaries taught by that same reference, i.e., that porous polishing pads cannot provide sufficient abrasion resistance, preclude it from teaching or suggesting the invention as claimed.

While the Examiner may desire to rely on only a portion of the alleged teaching provided by Furukawa et al., the Examiner may only do so if that portion does not distort the teaching of the reference as a whole. *See, e.g., W.L. Gore & Assocs. v. Garlock, Inc.*, 721 F.2d 1540, 220 U.S.P.Q. 303 (Fed. Cir. 1983), *cert denied*, 469 U.S. 851 (1984) (claims directed to rapid stretching of unsintered, highly crystalline PTFE not obvious over combination of reference that taught rapid stretching of reduced crystalline polypropylene combined with reference that generally taught stretching of unsintered PTFE because prior art also taught that polypropylene should have reduced crystallinity before stretching and that PTFE should be stretched slowly). Here, the claims directed to a *porous* polishing pad with a *negative* Poisson ratio are not obvious over the combination of a reference that teaches a porous or nonporous polishing pad (Reinhardt) combined with a reference that generally teaches the benefits provided by materials – other than those used in polishing applications – with a negative Poisson ratio (Lakes) because the prior art teaches that *porous* polishing pads

suffer from inherent structural problems that prevent them from providing desired polishing pad characteristics (Furukawa et al.).

Applicants respectfully submit that the subject matter defined by appealed claims 1-7 and 16-20 is not obvious over the combination of Reinhardt, Lakes, and Furukawa et al., and that the obviousness rejection should be reversed.

*B. Reinhardt, Lakes and Furukawa et al. in Further Combination with Other References*

Appealed claims 8-15 and 21 stand rejected as allegedly obvious over the combination of Reinhardt, Lakes and Furukawa et al, in further combination with one of Sevilla et al. (regarding claims 8 and 10), Suzuki et al. (regarding claim 9), Osterheld et al. (regarding claims 11-13), and Tang (regarding claims 14, 15, and 21). The disclosures of each of these additional references were discussed in detail in Appellants' Appeal Brief (Appeal Brief, pp. 6-8).

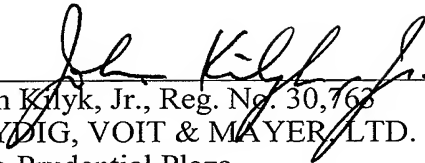
None of Sevilla et al., Suzuki et al., Osterheld et al., or Tang cures the deficiencies of the combination of Reinhardt, Lakes, and Furukawa et al. In particular, none of these references discloses or suggests a polishing pad comprising a porous polymeric material, wherein the porous polymeric material has a Poisson's ratio less than 0, or contradicts the teaching away from the claimed invention by Furukawa et al. As such, the obviousness rejections over Reinhardt, Lakes, and Furukawa et al., in combination with any one of Sevilla et al., Suzuki et al., Osterheld et al., and Tang, are improper and should be reversed.

*Conclusion*

For the foregoing reasons, as well as those set out in the Appellants' Appeal Brief, Appellants respectfully urge that the Examiner's rejections be reversed.



Respectfully submitted,

  
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Date: August 12, 2008